

**Graduate Faculty Meeting Minutes**  
**September 16, 2014, 9:00 – 10:00 am, AGLS 129**

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Present: Gary Briers, James Christiansen, Kim Dooley, Deb Dunsford, Holli Leggette, Billy McKim, Lori Moore, Theresa Murphrey, Manuel Pina, John Rayfield, Jeff Ripley, Tracy Rutherford, Robert Strong, Andy Vestal, Gary Wingenbach, Tim Murphy, Clarice Fulton

Not Present: Barry Boyd, Scott Cummings, Chanda Elbert, Jack Elliot, Julie Harlin, James Lindner, Summer Odom, Glen Shinn, Jennifer Williams

Action/Discussion Items

- 1) Approval of Minutes from the June meeting – Tim Murphy  
**Motion was made by John Rayfield, Second by Robert Strong, to “Approve the June minutes as distributed.”**  
**Motion passed unanimously. No other meetings have taken place since June.**
  
- 2) Graduate Curriculum Committee Report – Gary Briers – **No report at this time.**
  - a. International Ag Course Rotation – Manuel Pina  
**Dr. Pina reported that he is currently teaching all three courses associated with the international focus, ALEC 644, 645, and 646. When advising students, please inform them that he teaches the courses as stated in the course description in the graduate catalog, therefore the courses can be taken in any sequence.**
  
  - b. Graduate Research Sequence Committee Report (Attachment A) – Billy McKim  
**Open discussion. Dr. McKim provided a handout of the competencies with the rankings. Only 14 out of 23 faculty provided input. There was ongoing discussion about the report as it seems most competencies seem to be necessary and this indicates the need to address issues in course delivery and the need to make sure our courses cover what we expect the students to gain from them.**  
  
**Question - Should the competencies be split into three areas; Introduction, Intermediate, and Advanced? This should be addressed more in depth.**  
  
**Dr. Pina suggested that we should invite students to come to the department, as part of their orientation or even a workshop, to participate in a discussion about the various research methodologies. This was encouraged and we can plan this soon.**  
  
**A reminder was mentioned about the issue of STAT I and STAT II being offered in other departments. Dr. Tolson will be retiring soon, and this could provide the possibility for ALEC to create/design STAT I and/or STAT II courses for our students.**  
  
**The goal is to start with the research sequence courses, understand what the students should obtain from these courses and ultimately look at all our courses. The next step is to have more discussion on this topic at focused meetings of the interested, not in conjunction with the current Graduate Faculty meetings. Clarice will review the calendars of the faculty who indicated interest. She will select a date every month to schedule one hour meetings and invite all faculty to attend. You are encouraged to accept the meeting request if you would like to provide input.**
  
- 3) Spring 2015 Class Schedule (Final review - Attachment B) – Tim Murphy  
**Dr. Leggette indicated she will be teaching ALEC 604 in the Spring. Dr. Murphy mentioned he will work to obtain instructors for ALEC 608, ALEC 630, and ALEC 695 online.**

Old Business

**None at this time.**

New Business

**None at this time.**

Informational Items

- 1) Dr. Holli Leggette added to Graduate Faculty
- 2) Joint D@D Cohort 7 Curriculum (Attachment C)

Graduate Faculty Meeting Appendices (provided each month):

- 1) Graduate Admission Criterion Score Calculation/GRE Percentile Rankings (Attachment D)
- 2) Graduate Course Rotation/Steward (Attachment E)
- 3) Five Year Course Rotation (Attachment F)
- 4) Graduate Course Research Tools Sequence (Attachment G)

**Travel Request Form Deadlines**

Domestic (30 days prior to trip): e.g. travel November 1, 2014 due by October 1, 2014  
International (60 days prior to trip): e.g. travel December 1, 2014 due by October 1, 2014

**Upcoming Events/Meetings**

September 23-25, 2014	AAAE Western, Hawaii
October 10, 2014	Fall Internal Advisory Board Mtg, 1:00 pm, AGLS 200
October 20, 2014	Departmental Mtg, 8:15 am, AGLS 129 (kolaches, juice, coffee, 7:30 am)
Oct. 28-Nov. 1, 2014	National FFA Convention, Louisville, KY
November 17, 2014	Departmental Mtg, 8:15 am, AGLS 129 (kolaches, juice, coffee, 7:30 am)
November 18-19, 2014	ACTE Research & Professional Development Conference, Nashville, TN
December 15, 2014	Departmental Mtg, 8:15 am, AGLS 129 (kolaches, juice, coffee, 7:30 am)

**Future Graduate Faculty**

October 14, 2014	Graduate Faculty/Admission Review Mtg, 9:30 am, AGLS 129
November 19, 2014	Graduate Faculty meeting, 9:30 am, AGLS 129

## Thesis or Dissertation (M.S., Ph.D., Ed.D.)

<b>1 = Not Necessary; 2 = Nice, but not necessary; 3 = Absolutely necessary</b>	<b>1</b>	<b>2</b>	<b>3</b>
Discuss the research process and explain the various steps	0	0	14
Distinguish between exploratory, descriptive, and causal research designs	0	0	14
Identify and explain the major components of a research proposal	0	0	14
Explain the relationship between theory and research	0	0	14
Describe how to conduct a literature review	0	0	14
Discuss independent and dependent variables in support of a hypothesis	0	0	14
Identify and contrast underlying assumptions in particular methodological approaches	0	0	14
Explain the role of sampling in the research process	0	0	14
Explain factors to consider when determining sample size	0	0	14
Describe the steps in developing a sampling plan	0	0	14
Explain the four basic levels of scales	0	0	14
Describe scale development and its importance in gathering primary data	0	0	14
Describe the steps in questionnaire design	0	0	14
Discuss the questionnaire development process	0	0	14
Summarize the characteristics of good questionnaires	0	0	14
Describe the processes of categorizing and coding data and developing theory	0	0	14
Discuss how validity and reliability are established in quantitative studies	0	0	14
Describe differences between parametrics and statistics	0	0	14
Describe the process for data preparation and analysis	0	0	14
Discuss validation, editing, and coding of survey data	0	0	14
Explain data entry procedures and how to detect errors	0	0	14
Explain measures of central tendency and dispersion	0	0	14
Conduct and interpret t-tests	0	0	14
Conduct and interpret analysis of variance (ANOVA)	0	0	14
Describe and evaluate the types of relationships between variables	0	0	14
Explain the concepts of association and co-variation	0	0	14
Explain the concept of statistical significance versus practical significance	0	0	14
Describe when and how to use regression analysis	0	0	14
Construct and defend deductive and inductive arguments	0	0	14
Formulate research questions with clarity	0	0	14
Understand the nature and role of secondary data	0	1	13
Identify the major differences between qualitative and quantitative research	0	1	13
Explain basic qualitative data collection methods	0	1	13
Discuss observation methods and explain how they are used to collect data	0	1	13
Explain the purpose and advantages of survey research designs	0	1	13
Describe the types of survey methods	0	1	13
Explain experiments and the types of variables used in causal designs	0	1	13
Distinguish between probability and nonprobability sampling	0	1	13
Explain the role of measurement in social science research	0	1	13

**Thesis or Dissertation (M.S., Ph.D., Ed.D.)**

	<b>1</b>	<b>2</b>	<b>3</b>
<b>1 = Not Necessary; 2 = Nice, but not necessary; 3 = Absolutely necessary</b>			
Discuss comparative and noncomparative scales	0	1	13
Contrast qualitative and quantitative data analyses	0	1	13
Explain the steps in qualitative data analysis	0	1	13
Discuss how trustworthiness is established in qualitative studies	0	1	13
Describe data tabulation and analysis approaches	0	1	13
Conduct statistic procedures using SPSS	0	1	13
Discuss differences between Pearson correlation and Spearman correlation	0	1	13
Define the purpose of objectives in a research report	0	1	13
Describe the formatting of a research report	0	1	13
Discuss several techniques for graphically displaying research results	0	1	13
Describe the importance of presentations in social science research	0	1	13
Demonstrate oral proficiency, presenting ideas from seminar projects with clarity and intelligence	0	1	13
Develop a concept map of a study	0	1	13
Discuss the factors influencing the choice of survey methods	0	2	12
Describe how to test hypotheses using univariate and bivariate statistics	0	2	12
Conduct and interpret analysis of covariance (ANCOVA)	0	2	12
Identify sources of secondary data	0	1	12
Discuss conceptualization and its role in model development	0	1	12
Develop a logic model	0	1	12
Discuss the major factors influencing social science research	0	3	11
Discuss the basic assumptions underpinning positivist and interpretive approaches to social science, and their relation to basic methods	0	3	11
Explain the purpose and advantages of in-depth interviewing and focus groups	0	3	11
Define focus groups and explain how to conduct them	0	3	11
Conduct and interpret multivariate analysis of variance (MANOVA)	0	3	11
Clarify problems encountered in preparing reports	0	3	11
Understand the role of cover letters	0	2	11
Describe in-depth interviewing and focus groups as questioning techniques	0	4	10
Describe the impact research has on practitioners and industry decision-making	0	5	9
Describe ethical issues associated with practitioner- and industry-focused research	0	5	9
Demonstrate how research fits into the practitioner and industry planning processes	0	7	7
Identify examples of practitioner- and industry-focused studies	0	7	7
Discuss new skills and emerging trends in practitioner- and industry-focused research	0	7	6
Compare the scope and focus of practitioner- and industry-focused research	0	10	4

### Non-Thesis (M.Ag. or M.Ed.)

<b>1 = Not Necessary; 2 = Nice, but not necessary; 3 = Absolutely necessary</b>	<b>1</b>	<b>2</b>	<b>3</b>
Describe the impact research has on practitioners and industry decision-making	0	4	10
Discuss the research process and explain the various steps	0	4	10
Demonstrate how research fits into the practitioner and industry planning processes	0	5	9
Identify examples of practitioner- and industry-focused studies	0	5	9
Describe ethical issues associated with practitioner- and industry-focused research	2	3	9
Explain the relationship between theory and research	0	6	8
Demonstrate oral proficiency, presenting ideas from seminar projects with clarity and intelligence	1	5	8
Describe how to conduct a literature review	1	4	8
Identify the major differences between qualitative and quantitative research	1	4	8
Explain the concept of statistical significance versus practical significance	3	3	8
Formulate research questions with clarity	2	5	7
Discuss new skills and emerging trends in practitioner- and industry-focused research	3	3	7
Discuss the major factors influencing social science research	2	6	6
Discuss how validity and reliability are established in quantitative studies	2	6	6
Explain measures of central tendency and dispersion	4	4	6
Develop a logic model	3	4	6
Compare the scope and focus of practitioner- and industry-focused research	1	8	5
Describe the importance of presentations in social science research	2	7	5
Define the purpose of objectives in a research report	1	7	5
Distinguish between exploratory, descriptive, and causal research designs	3	6	5
Develop a concept map of a study	3	6	5
Discuss several techniques for graphically displaying research results	4	5	5
Construct and defend deductive and inductive arguments	4	4	5
Discuss independent and dependent variables in support of a hypothesis	1	9	4
Understand the nature and role of secondary data	2	8	4
Identify sources of secondary data	2	8	4
Summarize the characteristics of good questionnaires	2	8	4
Describe the formatting of a research report	3	7	4
Explain the role of measurement in social science research	2	7	4
Understand the role of cover letters	4	5	4
Contrast qualitative and quantitative data analyses	2	9	3
Explain the role of sampling in the research process	1	9	3
Explain basic qualitative data collection methods	3	8	3
Describe the types of survey methods	3	8	3
Explain the four basic levels of scales	3	8	3
Discuss how trustworthiness is established in qualitative studies	3	8	3
Describe and evaluate the types of relationships between variables	3	8	3
Define focus groups and explain how to conduct them	5	6	3
Clarify problems encountered in preparing reports	5	6	3
Identify and contrast underlying assumptions in particular methodological approaches	3	9	2
Describe differences between parametrics and statistics	3	9	2
Describe the steps in questionnaire design	4	8	2
Explain the purpose and advantages of in-depth interviewing and focus groups	5	7	2
Explain the purpose and advantages of survey research designs	5	7	2
Discuss the factors influencing the choice of survey methods	5	7	2
Identify and explain the major components of a research proposal	2	11	1

### Non-Thesis (M.Ag. or M.Ed.)

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Distinguish between probability and nonprobability sampling	2	11	1
Explain factors to consider when determining sample size	2	11	1
Explain the steps in qualitative data analysis	2	10	1
Discuss observation methods and explain how they are used to collect data	4	9	1
Discuss the questionnaire development process	4	9	1
Discuss the basic assumptions underpinning positivist and interpretive approaches to social science, and their relation to basic methods	5	8	1
Describe in-depth interviewing and focus groups as questioning techniques	5	8	1
Explain the concepts of association and co-variation	9	4	1
Describe the steps in developing a sampling plan	4	10	0
Describe the process for data preparation and analysis	4	10	0
Discuss validation, editing, and coding of survey data	5	9	0
Conduct and interpret t-tests	5	9	0
Discuss comparative and noncomparative scales	6	8	0
Describe data tabulation and analysis approaches	6	8	0
Explain experiments and the types of variables used in causal designs	7	7	0
Describe the processes of categorizing and coding data and developing theory	7	7	0
Explain data entry procedures and how to detect errors	7	7	0
Discuss conceptualization and its role in model development	6	7	0
Describe scale development and its importance in gathering primary data	6	7	0
Conduct and interpret analysis of variance (ANOVA)	8	6	0
Describe when and how to use regression analysis	8	6	0
Describe how to test hypotheses using univariate and bivariate statistics	9	5	0
Conduct statistic procedures using SPSS	9	5	0
Conduct and interpret analysis of covariance (ANCOVA)	10	4	0
Conduct and interpret multivariate analysis of variance (MANOVA)	10	4	0
Discuss differences between Pearson correlation and Spearman correlation	10	4	0

I am a little uncomfortable grouping Ph.D. and M.S. students--the basics of what they need to know may be the same but the depth is very different. I answered that scale for Ph.D. students. I am more concerned with our non thesis students being good consumers of research rather than actually being able to conduct a study--I would hope that they could look at a study and determine if it is "good," valid, reliable, etc.

I think that researchers should be able to do repeated measures designs and mixed designs with one or more repeated measures and one or more between-subjects factors.

Use page breaks in Qualtrics so the column headers can be viewed for every statement. Back arrows are nice, and USEFUL, in all surveys. SAVE and RESTART options are allowed in Qualtrics.

We need the opportunity to differentiate between Masters and Doctoral level expectations. I had difficulty responding because there is a variation in level of understanding and expectations for different programs. We can't possibly teach a student all of his in 18-24 months of a master's program versus 36 + months of a doctoral program.

### **Knowledge and Skills to be Learned through the Research Training Activities**

- **Subject-matter and methodological knowledge and skills:** This knowledge can be learned and applied through the curriculum. It can also be acquired through courses to be audited; mentoring by other faculty; attendance at colloquia, seminars, and workshops to be held by the training program or other programs; attendance at professional conferences; and research experiences.
- **Research experience and collaboration with education practitioners and/or policymakers:** Research experience can be gained through working on faculty's research projects. Collaborations with practitioner and/or policymaker organizations can be done through practicums, apprenticeships, and other forms of research collaborations with state and local education agencies, research forums, regional laboratories, and research consortia. The Institute particularly encourages programs to teach fellows how to access and analyze administrative records maintained by public agencies and other institutions.
- **Communication skills** (both written and oral): Programs can provide opportunities for fellows to learn, practice, and apply skills needed to communicate with other researchers, education practitioners, policymakers, and the public. Examples of such activities include workshops to learn communication fundamentals, writing project documents and presenting to project staff, mock presentations, presentations at seminars and meetings (including practitioner-oriented meetings), and writing for both peer-reviewed journals and more popular outlets, including publications geared toward policymakers and practitioners.
- **Grant-writing skills:** Fellows are more likely to succeed in the field of education sciences if they can write successful grant applications. Examples of activities include workshops to learn grant-writing fundamentals, reviewing mentors' grant applications, taking part in grant writing within the research project, and writing proposals for independent research projects.
- **Research administration and grant-management skills:** Fellows will need management experience both to obtain grants and to successfully implement their proposed work. Examples of activities include taking or auditing courses or attending seminars on research administration, taking on management responsibilities within research projects, and running independent research projects.
- **Career development:** Fellows should receive support for their transition to their next positions after the fellowship including how to identify appropriate career opportunities, how to obtain them, and how to determine what skills will be needed to advance in them. Career development should encourage and address careers in academic institutions, state and local education agencies, and nonprofit and for-profit research firms.

Spring 2015 Class Schedule

Name	Prog.	Course #	Sect. #	Cr. Hrs.	Days	Time	Seats	Room	Notes
Murphy	ALEC	601	600	3	W	5:00-8:00 pm	12	117	
Murphy	ALEC	601	600	3	W	online			D@D
Harlin	ALEC	602	600	3	MW; F	9:10-10:00; F 10-11:50		132	stack w/AGSC 402
<b>STAFF</b>	<b>ALEC</b>	<b>604</b>	<b>600</b>	<b>3</b>	<b>W</b>	<b>3-6 pm</b>	<b>12</b>	<b>109</b>	
Rayfield	ALEC	605	600	3	MW; F	10:20-11:10; 8:00-9:50		132	stack w/AGSC 405
<b>STAFF</b>	<b>ALEC</b>	<b>608</b>	<b>600</b>	<b>3</b>	<b>R</b>	<b>2:20-5:20 pm</b>	<b>12</b>	<b>117</b>	
Moore	ALEC	609	600	3	T	2:20-5:20 pm	12	109	
Lindner	ALEC	610	600	3	R	5:30-8:30	12	109	
Lindner	ALEC	610	699,700,720	3	N/A	online	10,7,3		
Murphrey	ALEC	612	699,700,720	3	N/A	Online	10,7,3		
Strong	ALEC	613	699,700,720	3	N/A	Online	10,7,3		
Williams	ALEC	617	699,700,720	3	N/A	online	10,7,3		
Lindner	ALEC	620	600	3	W	1:50-4:50 pm	12	117	
Briers	ALEC	622	600	3	M	4:10-7:10 pm	12	117	
Pina	ALEC	646	600	3	M	11:30-2:30 pm	12	109	
Cummings	ALEC	625	600	3	M	3:00-6:00 pm	12	109	
<b>STAFF</b>	<b>ALEC</b>	<b>630</b>	<b>600</b>	<b>3</b>	<b>T</b>	<b>6-9 pm</b>	<b>12</b>	<b>109</b>	
Strong	ALEC	640	650	3	N/A	Study Abroad-Costa Rica			Winter-mester (Dec -Jan)
Murphrey	ALEC	640	699,700,720	3	N/A	Online	10,7,3		
Pina	ALEC	645	600	3	W	3:00-6:00 pm	12	132	
Rutherford	ALEC	652	600	3	T	2:20-5:20 pm	12	117	
Wingenbach	ALEC	681	600	1	F	10:20-11:10 am	20	116	
Murphrey	ALEC	681	699,700,720	1	N/A	Online	10,7,3		
Strong	ALEC	695	600	3	R	3:55-6:55 pm	15	113	
<b>STAFF</b>	<b>ALEC</b>	<b>695</b>	<b>699,700,720</b>	<b>3</b>	<b>N/A</b>	<b>Online</b>	<b>10,7,3</b>		
Lindner	ALEC	696	600	3	R	2:20-5:20	12	109	
Dooley	ALEC	696	699,700,720	3	N/A	Online	12		



**Texas A&M University and Texas Tech University**  
**Joint Doctor of Education Degree Program in Agricultural Education**  
**Course Curriculum-Cohort 7**

**REQUIRED CORE COURSES (30 credits)**

Fall 2015	Frontiers in Research (TAMU)	3 hours
	History & Philosophy of AGED & Communications (TTU)	3 hours
	Graduate Seminar (TTU) – Face-to-face in Lubbock	1 hour
Spring 2016	Assessing Program Effectiveness in Agriculture & Extended Education (STAT-TTU)	3 hours
	Foundations in Leadership Theory (TAMU)	3 hours
	Seminar – Sharing Research & Innovative Ideas through Posters (TAMU)	1 hour
Summer 2016	Program Development in AGED & Communications (TTU)	3 hours
Fall 2016	Methods of Technological Change (TTU)	3 hours
	Principles of Adult Education (TAMU)	3 hours
	Seminar (TAMU) – Face-to-face College Station	1 hour
Spring 2017	Evaluation of Programs in Vocational, Technical, & Extension Education (TTU)	3 hours
	Qualitative Research Methods (TAMU)	3 hours
	Graduate Seminar (TTU) – Face-to-face meeting at National Conference (TBD)	1 hour
	<b><i>Total hours **Required Qualifying Examination</i></b>	<b><i>31 hours</i></b>

\*\* A comprehensive Qualifying Exam will be administered during the semester of completing 31 credit hours of coursework. Upon successful performance, the student will advance to doctoral pre-candidacy status. Specific times for the examinations will be provided in advance.

**PROGRAM SPECIFIC (34 credits)**

Summer 2017	Support Field course (TTU)	3 hours
Fall 2017	ALEC 689 Special Topics in Communications Theory (TAMU)	3 hours
	Support Field course (TAMU)	3 hours
	Graduate Seminar (TTU) – Face-to-face meeting in Lubbock, TX	1 hour
Spring 2018	Proposal Development (TAMU)	3 hours
	Multivariate Data Analysis and Interpretation (TTU)	3 hours
	Seminar (TAMU)	1 hour
Summer 2018	Internship (TAMU)	1 hour
	Support Field (TTU)	3 hours
Fall 2018	Dissertation (TAMU)	3 hours
	Dissertation (TTU)	3 hours
Spring 2019	Dissertation (TAMU)	3 hours
	Dissertation (TTU)	3 hours
	<b><i>Total hours</i></b>	<b><i>64 hours</i></b>

**GRE SCORES and PERCENTILE RANKS**

PREV SCORE	NEW SCORE Q	NEW QUANT %	NEW SCORE V	NEW VERBAL %
800	166	93	170	99
790	164	89	170	99
780	163	87	170	99
770	161	81	170	99
760	160	78	170	99
750	159	75	169	99
740	158	72	169	99
730	157	69	168	98
720	156	65	168	98
710	155	61	167	97
700	155	61	166	96
690	154	57	165	95
680	153	53	165	95
670	152	49	164	93
660	152	49	164	93
650	151	45	163	91
640	151	45	162	89
630	150	41	162	89
620	149	37	161	87
610	149	37	160	84
600	148	33	160	84
590	148	33	159	81
580	147	29	158	78
570	147	29	158	78
560	146	25	157	73
550	146	25	156	70
540	145	22	156	70
530	145	22	155	66
520	144	18	154	62
510	144	18	154	62
500	144	18	153	58
490	143	15	152	53
480	143	15	152	53
470	142	13	151	49
460	142	13	151	49
450	141	11	150	44
440	141	11	149	40
430	141	11	149	40
420	140	8	148	36
410	140	8	147	32
400	140	8	146	28
390	139	6	146	28
380	139	6	145	24
370	138	5	144	21
360	138	5	143	18
350	138	5	143	18
340	137	3	142	15
330	137	3	141	12
320	136	2	140	10
310	136	2	139	7
300	136	2	138	6
290	135	2	137	5
280	135	2	135	2
270	134	1	134	2
260	134	1	133	1
250	133	1	132	1
240	133	1	131	1
230	132	1	130	0
220	132	0	130	0
210	131	0	130	0
200	131	0	130	0

SCORE	WRITING %
6.0	99
5.5	97
5.0	93
4.5	78
4.0	54
3.5	35
3.0	14
2.5	6
2.0	2
1.5	1
1.0	0
0.5	0
0.0	0

**ALEC Criterion Score Calculation**

**(GRE-V %ile + GRE-Q %ile + GRE-W %ile) + (GPR x 100)**

**Master's Minimum to be considered: 350**

**Doctoral Minimum to be considered: 400**

**Old Test Minimums**

**Master's Applicants**

GRE-Q	GRE-V	Writing	Last 60 hrs. GPR
500	410	4	3.1

**Doctoral Applicants**

GRE-Q	GRE-V	Writing	Graduate GPR
500	450	4	3.7

**New Test - Highly Competitive Scores**

**Master's Applicants**

GRE-Q	GRE-V	Writing	Last 60 hrs. GPR
26%	36%	41%	3.1
146	148	4	

**Doctoral Applicants**

GRE-Q	GRE-V	Writing	Graduate GPR
26%	48%	41%	3.7
146	151	4	

If your scores and GPA meet each category above for the degree of interest, your application will be considered highly competitive and you may be admitted without a faculty vote. However, you must still have a faculty member to agree to serve as your interim major advisor (IMA).

**Grad Course Sequencing**  
**Department of Agricultural Leadership, Education, & Communications**

o = odd years; e = even years

<b>Fall Course and Title</b>		<b>Steward</b>
ALEC 602 (o, e)	Advanced Instructional Design in Agricultural Science	Harlin
ALEC 605 (o, e)	Facilitating Complete Secondary Agricultural Science Programs	Rayfield
ALEC 606 (o, e)	Leadership Education Theory	Elbert
ALEC 610 (o, e)	Principles of Adult Education (Campus)	Lindner
ALEC 611 (o, e)	Advanced Methods in Distance Education (Web-based)	Dooley
ALEC 615 (o, e)	Philosophy of Agricultural Education (Web-Enhanced)	Murphy
ALEC 616 (o, e)	Facilitation of Leadership Programs	Odom
<b>ALEC 618 (o, e)</b>	<b>(Proposed course) Cross Cultural Perspectives on Leadership</b>	Elbert
ALEC 621 (o)	Methods of Online Survey Research in Agricultural Science	Wingenbach
ALEC 623 (o, e)	Survey of Evaluation Strategies for Agriculture (Campus & WBased)	Murphrey
ALEC 624 (o, e)	Developing Funded Research Projects (Doctoral only)	Pina
ALEC 640 (o, e)	Methods of Technological Change (Campus & Web-based)	Strong
ALEC 644 (o, e)	The Agricultural Advisor in Developing Nations	Pina
ALEC 681 (o, e)	Seminar (topics change by semester; can be taken more than once)	Murphy
ALEC 690 (o, e)	Theory of Agricultural Education Research (Basic Quant)	Briers
ALEC 691 (o, e)	Research for MS/PhD	
ALEC 692 (o, e)	Research for EdD	
ALEC 693 (o, e)	Professional Study for MAg	
ALEC 695 (o, e)	Frontiers in Research (Campus & Web-based)	Murphy

<b>Spring Course and Title</b>		<b>Steward</b>
ALEC 601 (o, e)	Advanced Methods in Agricultural Education	Murphy
ALEC 602 (o, e)	Advanced Instructional Design in Agricultural Science	Harlin
ALEC 604 (o, e)	Writing for Professional Publication	Rutherford
ALEC 605 (o, e)	Facilitating Complete Secondary Agricultural Science Programs	Rayfield
ALEC 607 (e)	Youth Leadership Programs (Web-based)	Boyd
ALEC 608 (o, e)	Leadership of Volunteers	Lockett
ALEC 609 (o, e)	Learning Organizations	Moore
ALEC 610 (o, e)	Principles of Adult Education (Web-based)	Lindner
ALEC 612 (o, e)	Advanced Instructional Design for Online Learning (Web-based)	Murphrey
ALEC 613 (o, e)	Techniques in eLearning Development & Delivery (Web-based)	Strong
ALEC 620 (o, e)	Instrumentation and Survey Research Methods	Lindner
ALEC 622 (o, e)	Data Collection, Analysis and Interpretation	Briers
ALEC 624 (o)	Developing Funded Research Projects (Masters only)	Pina
ALEC 625 (o, e)	Program Evaluation & Org Accountability (Campus & Web-based)	Elbert
ALEC 630 (o, e)	Guidance and Counseling for Rural Youth	Larke
ALEC 640 (o, e)	Methods of Technological Change (Campus & Web-based)	Strong
ALEC 645 (o, e)	Initiating, Managing & Monitoring Projects of International ADEV	Pina
ALEC 646 (e)	Institutions Serving Agriculture in Developing Nations	Wingenbach
ALEC 652 (o)	Images of Agriculture: Visual Communication Research	Rutherford
ALEC 681 (o, e)	Seminar (topics change by semester; can be taken more than once)	

<b>ALEC 691 (o, e)</b>	<b>Research for MS/PhD</b>	
<b>ALEC 692 (o, e)</b>	<b>Research for EdD</b>	
<b>ALEC 693 (o, e)</b>	<b>Professional Study for MAg</b>	
<b>ALEC 695 (o, e)</b>	<b>Frontiers of Research (Campus &amp; Web-based)</b>	<b>Murphy</b>
<b>ALEC 696 (o, e)</b>	<b>Qualitative Research Methods (Campus &amp; Web-based)</b>	<b>Dooley</b>

<b>Summer Course and Title (Proposed list)</b>		<b>Steward</b>
<b>ALEC 603 (o, e)</b>	<b>Experiential Learning</b>	<b>Rayfield</b>
<b>ALEC 617 (o, e)</b>	<b>Leadership in Organizational Culture &amp; Ethics (Web-based)</b>	<b>Williams</b>
<b>ALEC 625 (e)</b>	<b>Program Evaluation &amp; Org Accountability (Campus &amp; Web-based)</b>	<b>Elbert</b>
<b>ALEC 631 (o, e)</b>	<b>Development and Planning of Community Education Programs</b>	<b>Cummings</b>

**This document is intended for planning purposes. Course offerings are subject to change and it is recommended that students visit with their advisors and course instructors to determine exact offerings for specific semesters. Summer course offerings will be subject to available funding.**

**Last Updated, November 2013**

## Agricultural Leadership, Education, & Communications Graduate Course Offering Schedule (Five Year)

	2013-14	2014-15	2015-16	2016-17	2017-18
<b>FALL</b>	ALEC 602 Adv Instructional Design in AGSC (Harlin)	ALEC 602 Adv Instructional Design in AGSC (Harlin)	ALEC 602 Adv Instructional Design in AGSC	ALEC 602 Adv Instructional Design in AGSC	ALEC 602 Adv Instructional Design in AGSC
	ALEC 605 Facilitating Comp Secondary AGSC Programs (Rayfield)	ALEC 605 Facilitating Comp Secondary AGSC Programs (Rayfield)	ALEC 605 Facilitating Comp Secondary AGSC Programs	ALEC 605 Facilitating Comp Secondary AGSC Programs	ALEC 605 Facilitating Comp Secondary AGSC Programs
	ALEC 606 Leadership Education Theory (Elbert)	ALEC 606 Leadership Education Theory (Elbert)	ALEC 606 Leadership Education Theory	ALEC 606 Leadership Education Theory	ALEC 606 Leadership Education Theory
	ALEC 610 Principles of Adult Education (Lindner)	ALEC 610 Principles of Adult Education (Lindner)	ALEC 610 Principles of Adult Education	ALEC 610 Principles of Adult Education	ALEC 610 Principles of Adult Education
	ALEC 611 Adv Methods in Distance Ed (Dooley) <sup>1</sup>	ALEC 611 Adv Methods in Distance Ed (Dooley) <sup>1</sup>	ALEC 611 Adv Methods in Distance Ed <sup>1</sup>	ALEC 611 Adv Methods in Distance Ed <sup>1</sup>	ALEC 611 Adv Methods in Distance Ed <sup>1</sup>
	ALEC 615 Philosophy of AGED (Murphy)	ALEC 615 Philosophy of AGED (Murphy)	ALEC 615 Philosophy of AGED	ALEC 615 Philosophy of AGED	ALEC 615 Philosophy of AGED
	ALEC 616 Facilitation of Leadership Programs (Odom)	ALEC 616 Facilitation of Leadership Programs (Odom)	ALEC 616 Facilitation of Leadership Programs	ALEC 616 Facilitation of Leadership Programs	ALEC 616 Facilitation of Leadership Programs
	ALEC 621 Methods of Online Survey Research in AGSC (Wingenbach)	ALEC 621 Methods of Online Survey Research in AGSC (Odom)	ALEC 621 Methods of Online Survey Research in AGSC (Wingenbach)	ALEC 621 Methods of Online Survey Research in AGSC	ALEC 621 Methods of Online Survey Research in AGSC (Wingenbach)
	ALEC 623 Survey of Evaluation Strategies for Agriculture (Murphrey)	ALEC 623 Survey of Evaluation Strategies for Agriculture (Murphrey)	ALEC 623 Survey of Evaluation Strategies for Agriculture	ALEC 623 Survey of Evaluation Strategies for Agriculture <sup>1</sup>	ALEC 623 Survey of Evaluation Strategies for Agriculture
	ALEC 623 Survey of Evaluation Strategies for Agriculture (Murphrey) <sup>1</sup>	ALEC 623 Survey of Evaluation Strategies for Agriculture (Murphrey) <sup>1</sup>	ALEC 624 Developing Funded Research Projects	ALEC 624 Developing Funded Research Projects	ALEC 624 Developing Funded Research Projects
	ALEC 624 Developing Funded Research Projects-Doctoral only (Pina)	ALEC 624 Developing Funded Research Projects (Pina)	ALEC 640 Methods of Technological Change <sup>1</sup>	ALEC 640 Methods of Technological Change <sup>1</sup>	ALEC 640 Methods of Technological Change <sup>1</sup>
	ALEC 640 Methods of Technological Change (Murphrey) <sup>1</sup>	ALEC 640 Methods of Technological Change (Murphrey) <sup>1</sup>	ALEC 644 The Agricultural Advisor in Developing Nations	ALEC 644 The Agricultural Advisor in Developing Nations	ALEC 644 The Agricultural Advisor in Developing Nations
	ALEC 640 Methods of Technological Change (Strong)	ALEC 640 Methods of Technological Change (Murphrey) <sup>1</sup>	ALEC 681 Seminar	ALEC 681 Seminar	ALEC 681 Seminar
	ALEC 644 The Agricultural Advisor in Developing Nations (Pina)	ALEC 644 The Agricultural Advisor in Developing Nations (Pina)	ALEC 690 Theory of AGED Research-Basic Quant	ALEC 690 Theory of AGED Research-Basic Quant	ALEC 690 Theory of AGED Research-Basic Quant
	ALEC 681 Seminar (Hanagriff)	ALEC 681 Seminar (McKim)	ALEC 695 Frontiers in Research	ALEC 695 Frontiers in Research	ALEC 695 Frontiers in Research
	ALEC 681 Seminar (Murphrey) <sup>1</sup>	ALEC 690 Theory of AGED Research-Basic Quant (Briers)	ALEC 695 Frontiers in Research <sup>1</sup>	ALEC 695 Frontiers in Research <sup>1</sup>	ALEC 695 Frontiers in Research <sup>1</sup>
	ALEC 689 Sp Tp Leadership of Teams (Williams)	ALEC 695 Frontiers in Research (Rayfield)			
	ALEC 689 Sp Tp Mentoring for Success (Odom)	ALEC 695 Frontiers in Research (Strong) <sup>1</sup>			
	ALEC 690 Theory of AGED Research-Basic Quant (Briers)				
	ALEC 695 Frontiers of Research (Rayfield)				
ALEC 695 Frontiers of Research (Strong) <sup>1 3</sup>					

**SPRING REGULAR SEMESTER**

**2013-14**

**2014-15**

**2015-16**

**2016-17**

**2017-18**

ALEC 601 Adv Methods in AGED (Murphy)	ALEC 601 Adv Methods in AGED	ALEC 601 Adv Methods in AGED	ALEC 601 Adv Methods in AGED	ALEC 601 Adv Methods in AGED
ALEC 602 Adv Instructional Design in AGSC (Harlin)	ALEC 602 Adv Instructional Design in AGSC (Harlin)	ALEC 602 Adv Instructional Design in AGSC (Harlin)	ALEC 602 Adv Instructional Design in AGSC (Harlin)	ALEC 602 Adv Instructional Design in AGSC (Harlin)
ALEC 605 Facilitating Comp Secondary AGSC Programs (Rayfield)	ALEC 605 Facilitating Comp Secondary AGSC Programs (Rayfield)	ALEC 605 Facilitating Comp Secondary AGSC Programs (Rayfield)	ALEC 605 Facilitating Comp Secondary AGSC Programs (Rayfield)	ALEC 605 Facilitating Comp Secondary AGSC Programs (Rayfield)
ALEC 604 Writing for Professional Publication (Rutherford) <sup>1,3</sup>	ALEC 604 Writing for Professional Publication (Rutherford) <sup>3</sup>	ALEC 604 Writing for Professional Publication	ALEC 604 Writing for Professional Publication	ALEC 604 Writing for Professional Publication
ALEC 606 Leadership Education Theory (Moore) <sup>3</sup>	ALEC 606 Leadership Education Theory (Moore)	ALEC 607 Youth Leadership Programs <sup>1</sup>	ALEC 608 Leadership of Volunteers	ALEC 607 Youth Leadership Programs <sup>1</sup>
ALEC 607 Youth Leadership Programs (Moore) <sup>1</sup>	ALEC 608 Leadership of Volunteers	ALEC 608 Leadership of Volunteers	ALEC 609 Learning Organizations	ALEC 608 Leadership of Volunteers
ALEC 608 Leadership of Volunteers (Lockett)	ALEC 609 Learning Organizations	ALEC 610 Principles of Adult Education (Lindner) <sup>1</sup>	ALEC 610 Principles of Adult Education (Lindner) <sup>1</sup>	ALEC 610 Principles of Adult Education (Lindner) <sup>1</sup>
ALEC 609 Learning Organizations (Moore) Cancelled	ALEC 610 Principles of Adult Education (Lindner) <sup>1</sup>	ALEC 612 Adv Instructional Design for Online Learning <sup>1</sup>	ALEC 612 Adv Instructional Design for Online Learning <sup>1</sup>	ALEC 612 Adv Instructional Design for Online Learning <sup>1</sup>
ALEC 610 Principles of Adult Education (Lindner) <sup>1</sup>	ALEC 612 Adv Instructional Design for Online Learning <sup>1</sup>	ALEC 613 Techniques in eLearning Dev & Delivery <sup>1</sup>	ALEC 613 Techniques in eLearning Dev & Delivery <sup>1</sup>	ALEC 613 Techniques in eLearning Dev & Delivery <sup>1</sup>
ALEC 612 Adv Instructional Design for Online Learning (Murphrey) <sup>1</sup>	ALEC 613 Techniques in eLearning Dev & Delivery <sup>1</sup>	ALEC 622 Data Collection, Analysis, & Interpretation	ALEC 620 Instrumentation & Survey Research Methods (Lindner)	ALEC 613 Techniques in eLearning Dev & Delivery <sup>1</sup>
ALEC 613 Techniques in eLearning Dev & Delivery (Strong) <sup>1</sup>	ALEC 620 Instrumentation & Survey Research Methods (Lindner)	ALEC 625 Program Evaluation & Organizational Accountability <sup>1</sup>	ALEC 622 Data Collection, Analysis, & Interpretation	ALEC 622 Data Collection, Analysis, & Interpretation
ALEC 620 Instrumentation & Survey Research Methods (Lindner)	ALEC 622 Data Collection, Analysis, & Interpretation	ALEC 625 Program Evaluation & Organizational Accountability	ALEC 624 Developing Funded Research Projects-Masters only (Pina)	ALEC 625 Program Evaluation & Organizational Accountability <sup>1</sup>
ALEC 622 Data Collection, Analysis, & Interpretation (Briers)	ALEC 624 Developing Funded Research Projects-Masters only (Pina)	ALEC 630 Guidance & Counseling for Rural Youth	ALEC 625 Program Evaluation & Organizational Accountability <sup>1</sup>	ALEC 625 Program Evaluation & Organizational Accountability
ALEC 625 Program Evaluation & Organizational Accountability (Cummings)	ALEC 625 Program Evaluation & Organizational Accountability <sup>1</sup>	ALEC 645 Initiating, Managing & Monitoring Projects of International ADEV (Pina)	ALEC 625 Program Evaluation & Organizational Accountability	ALEC 630 Guidance & Counseling for Rural Youth
ALEC 625 Program Evaluation & Organizational Accountability (Elbert) <sup>1</sup>	ALEC 625 Program Evaluation & Organizational Accountability	ALEC 646 Institutions Serving AG in Developing Nations	ALEC 630 Guidance & Counseling for Rural Youth	ALEC 645 Initiating, Managing & Monitoring Projects of International ADEV (Pina)
ALEC 630 Guidance & Counseling for Rural Youth (Larke)	ALEC 630 Guidance & Counseling for Rural Youth	ALEC 652 Images of Agriculture: Visual Communication Research	ALEC 640 Methods of Technological Change <sup>1</sup>	ALEC 646 Institutions Serving AG in Developing Nations
ALEC 640 Methods of Technological Change (Murphrey) <sup>1</sup>	ALEC 640 Methods of Technological Change <sup>1</sup>	ALEC 681 Seminar	ALEC 645 Initiating, Managing & Monitoring Projects of International ADEV (Pina)	ALEC 652 Images of Agriculture: Visual Communication Research
ALEC 645 Initiating, Managing & Monitoring Projects of International ADEV (Pina)	ALEC 645 Initiating, Managing & Monitoring Projects of International ADEV (Pina)	ALEC 681 Seminar <sup>3</sup>	ALEC 681 Seminar	ALEC 681 Seminar
ALEC 646 Institutions Serving AG in Developing Nations (Pina)	ALEC 645 Initiating, Managing & Monitoring Projects of International ADEV (Pina)	ALEC 695 Frontiers of Research	ALEC 681 Seminar	ALEC 681 Seminar <sup>3</sup>
ALEC 681 Seminar (Cummings)	ALEC 681 Seminar <sup>1</sup>	ALEC 696 Qualitative Research Methods <sup>1</sup>	ALEC 695 Frontiers of Research	ALEC 695 Frontiers of Research
ALEC 695 Frontiers of Research (Strong)	ALEC 695 Frontiers of Research		ALEC 696 Qualitative Research Methods <sup>1</sup>	ALEC 695 Frontiers of Research
ALEC 696 Qualitative Research Methods (Dooley) <sup>1</sup>	ALEC 696 Qualitative Research Methods <sup>1</sup>			ALEC 696 Qualitative Research Methods <sup>1</sup>
ALEC 696 Qualitative Research Methods (Lindner)				

	2013-14	2014-15	2015-16	2016-17	2017-18
<b>Spring Winter Mini-mester</b>	ALEC 640 Methods of Technological Change (Strong) <sup>5</sup> – Costa Rica	ALEC 640 Methods of Technological Change (Strong) <sup>5</sup> – Costa Rica			
<b>SSI / Summer Mini-mester</b>	Proposed courses ALEC 603 Experiential Learning (Rayfield) <sup>4</sup>  ALEC 617 Leadership in Organizational Culture & Ethics (Williams) <sup>1</sup>  ALEC 625 Program Evaluation & Organizational Accountability (Elbert) <sup>1</sup> Not offered  ALEC 631 Development and Planning of Community Education Programs (Cummings) - Not offered	Proposed ALEC 603 Experiential Learning  ALEC 617 Leadership in Organizational Culture & Ethics  ALEC 625 Program Evaluation & Organizational Accountability <sup>1</sup>  ALEC 631 Development and Planning of Community Education Programs	ALEC 603 Experiential Learning  ALEC 617 Leadership in Organizational Culture & Ethics  ALEC 631 Development and Planning of Community Education Programs	ALEC 603 Experiential Learning  ALEC 617 Leadership in Organizational Culture & Ethics  ALEC 625 Program Evaluation & Organizational Accountability <sup>1</sup>  ALEC 631 Development and Planning of Community Education Programs	ALEC 603 Experiential Learning  ALEC 617 Leadership in Organizational Culture & Ethics  ALEC 631 Development and Planning of Community Education Programs
<b>SS II</b>	ALEC 604 Writing for Prof.Publication (Rutherford) <sup>5</sup> – Namibia				

- 1 Distance delivery as web-based
- 2 Delivery is web enhanced
- 3 For Joint Ed.D. program
- 4 Summer Mini-mester
- 5 Study Abroad

Updated May 2014

**Agricultural Leadership, Education, and Communications (ALEC)  
Graduate Degree Plan Required Research Sequence**

The graduate faculty in ALEC wants to provide you the knowledge and skills to be a consumer and initiator of research. Graduate degrees assume a theoretical perspective, and the ability to conduct research-based inquiry. Degrees requiring original research require more advanced research tools and a knowledge of statistics. If you have previously taken some research coursework, you may proceed through the research sequence taking more advanced courses. If you have no research-related preparation, you may need leveling coursework. Provided below are the minimum requirements for Research Tools courses in the degree programs offered by the department. In addition to the required Research Tools courses, students in each graduate program ordinarily include the ALEC Graduate Seminar, and an appropriate amount of Research, Professional Study, or Internship credit on their Degree Plans. These requirements are summarized in the Table below.

<b>M. Ed. or M. Ag. (3 Hours of Tools)</b>	<b>M. S. (6 Hours of Tools)</b>	<b>Ed. D. (12 Hours of Tools)</b>	<b>Ph. D. (18 Hours of Tools)</b>
ALEC 695	Basic Quant <b>OR</b> Basic Qual	Basic Quant	Basic Quant
	<b>STAT I</b>	Basic Qual.	Basic Qual.
		<b>STAT I OR STAT II</b>	<b>STAT I</b>
<b>ALEC 684 OR ALEC 693</b>	<b>ALEC 681 (1 hr.)</b>	Advanced Quant.	<b>STAT II</b>
	<b>ALEC 691 (4 hrs.)</b>	<b>ALEC 681 (3 hr.)</b>	Measurement/Instrumentation
			STAT III
		<b>ALEC 684 (6 hrs.)</b>	Interpretation/Analysis
			Writing/Reporting Results
		<b>ALEC 692 (12 hrs.)</b>	<b>ALEC 681 (3 hr.)</b>
			<b>ALEC 691 (12 hrs.)</b>

**Notes:**

- ALEC 681 (graduate seminar) is a part of our departmental research culture. *All graduate students are encouraged to attend even when not enrolled.*
- A Master of Science student is limited to one 690 course. The STAT series in EDAD or EHRD are 690 courses, so plan accordingly. In addition, there is a limitation to the number of variable course credit (refer to catalog).
- Doctoral students ordinarily include a basic quantitative and qualitative course, two graduate statistics courses, and one or more advanced methods courses matching the methods chosen for their study (quant/qual) in the following areas 1) measurement/instrumentation, 2) interpretation/analysis, and 3) writing/reporting results.

**Variable Credit Courses in ALEC**

ALEC 681	Seminar
ALEC 684	Professional Internship (M.Ed., M.Ag., EdD)
ALEC 685	Direct Studies
ALEC 691	Research (PhD dissertation and MS thesis)
ALEC 692	Professional Study (EdD Record of Study)
ALEC 693	Professional Study (MEd, M.Ag., Professional Paper)

**Approved Statistics Courses**

STAT 651 (STAT I)	Statistics in Research I
EDAD/EHRD 690 (STAT I)	Theory of EDAD/EHRD Research-STAT I
EPSY 640 (STAT I)	Experimental Design in Education I
STAT 652 (STAT II)	Statistics in Research II
EDAD/EHRD 690 (STAT II)	Theory of EDAD/EHRD Research-STAT II
EPSY 641 (STAT II)	Experimental Design in Education II



### Approved Research Tools Courses in ALEC

ALEC 604	Writing for Professional Publication
ALEC 620	Instrumentation and Survey Research Methods in Ag Ed
ALEC 621	Online Research Methods
ALEC 622	Data Analysis and Interpretation
ALEC 690	Basic Quantitative Research Methods
ALEC 695	Frontiers in ALEC Research—Required for Masters programs
ALEC 696	Qualitative Research Methods

### Approved Research Tools Courses by Department

STAT 606	Design of Experiments
STAT 607	Sampling
STAT 609	Order Statistics and Non-Parametric Methods
STAT 636	Methods in Multivariate Analysis
STAT 641	The Methods of Statistics I
STAT 642	The Methods of Statistics II
STAT 653	Statistics in Research III
STAT 659	Applied Categorical Data Analysis
EDAD 623	Advanced Fieldwork Methods (Advanced Qual)
EDAD 690	Theory of EDAD Research—Field Methods (Intro Qual)
EDAD 690	Theory of EDAD Research—Proposal Preparation
EDAD/EHRD 690	Theory of EDAD/EHRD Research—Research Design (STAT III)
EDAD 690	Theory of EDAD Research—Survey Data Analysis
EDCI 636	Educator as Researcher
EDCI 673	Analysis of Teaching Behavior
EHRD 627	Research and Development in EHRD
EHRD 651	Models of Epistemology and Inquiry in EHRD
EHRD 655	Qualitative Research Methods
EHRD 656	Narrative Analysis (Advanced Qual)
EHRD 657	Life History Research (Advanced Qual)
EHRD 690	Theory of EHRD Research—Adult Ed Research Design (Qual)
EHRD 690	Theory of EHRD Research—Literature Review
EPSY 435	Educational Statistics
EPSY 622	Measurement and Evaluation in Research
EPSY 625	Advanced Behavioral Measurement
EPSY 636	Techniques of Research
EPSY 640	Experimental Design in Education I
EPSY 641	Experimental Design in Education II
EPSY 642	Meta-Analysis of Behavioral Research
EPSY 643	Applied Multivariate Methods
COMM 610	Social Science Methods in Communication Research (Quan)
COMM 615	Interpretive Research in Communication (Qual)
KINE 601	Reading Research Publications in Kinesiology
PSYC 623	Standardized Tests and Measurements
PSYC 624	Individual Testing
PSYC 627	Individual Testing of Children and Adolescents
PSYC 671	Experimental Design for Behavioral Scientists
PSYC 672	Factor Analysis for Behavioral Scientists
PSYC 673	Psychometric Theory and Methods
PSYC 674	Covariance Structure Models and Causal Analysis
PSYC 676	Web-Based Data Collection
RPTS 615	Analytic Techniques in RPTS
SOCI 623	Measurement of Sociological Parameters
SOCI 624	Qualitative Methodology (Intro Qual)
SOCI 631	Seminar in Sociological Research
URSC 641	Analytics Methods in Landscape and Urban Research I